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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/699,900

11/03/2003

Carl Michael Hesler

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EXAMINER

SHOSHO, CALLIE E

ART UNIT

PAPER NUMBER

1714

MAIL DATE

DELIVERY MODE

06/15/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/699,900	<b>Applicant(s)</b> HESLER ET AL.	
	<b>Examiner</b> Callie E. Shosho	<b>Art Unit</b> 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 3,5,6,8,10 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3,5,6,8,10 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

**Claim Rejections - 35 USC § 102**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 3, 6, 8, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Zhu (U.S. 5,889,083) taken in view of the evidence given in Yatake (U.S. 5,560,770)

The rejection is adequately set forth in paragraph 3 of the office action mailed 12/14/06 and is incorporated here by reference.

3. Claims 3, 6, 8, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Patel et al. (U.S. 5,977,210) taken in view of the evidence given in Sasaki et al. (U.S. 4,248,636) and Satake et al. (U.S. 5,814,685).

The rejection is adequately set forth in paragraph 4 of the office action mailed 12/14/06 and is incorporated here by reference.

**Claim Rejections - 35 USC § 103**

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu (U.S. 5,889,083) or Patel et al. (U.S. 5,977,210) either of which in view of Miyabayashi et al. (U.S. 2002/0107303).

The rejection is adequately set forth in paragraph 7 of the office action mailed 12/14/06 and is incorporated here by reference.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu (U.S. 5,889,083) or Patel et al. (U.S. 5,977,210) either of which in view of Ma et al. (U.S. 5,085,698).

The rejection is adequately set forth in paragraph 8 of the office action mailed 12/14/06 and is incorporated here by reference.

### **Response to Arguments**

7. Applicants' arguments filed 3/27/07 have been fully considered but they are not persuasive.

Specifically, applicants argue that neither Zhu or Patel et al. is a relevant reference against the present claims given that the ink of each reference contains component which falls outside the scope of the "consisting essentially of" transitional language now recited in all the present claims.

Specifically, applicants argue that the present claims now require "consisting essentially of" transitional language which limits the scope of the present claims to the required materials and steps and those that do not materially effect the basic and novel characteristics of the claimed invention. In light of this and given that the ink of Zhu requires the use of wax and the ink of

Patel et al. requires the use of cationic surfactant wherein the wax and the cationic surfactant would each materially effect the basic and novel characteristics of the claimed invention, applicants argue that neither reference is properly applicable against the present claims.

However, while it is agreed that Zhu requires the use of wax and Patel et al. requires the use of cationic surfactant, it is the examiner's position that Zhu and Patel et al. each remain relevant references against the present claims in light of the open language recited with respect to the ink, i.e. "comprising". In light of the this open language, it is clear that the scope of the ink remains open to the inclusion of additional ingredients including wax and cationic surfactant. There is nothing in the present claims that excludes the use of wax or cationic surfactant in the ink.

While applicants have amended the present claims to recite "consisting essentially of" transition language, it is noted that such transitional language is recited with respect to the method and thus limits the scope of the method not the ink. That is, the amendment to the present claims limits the scope of the claims with respect to the specific steps of the method and does not limit the scope of the ink where open language is still recited. While the present claims have been amended to recite "consisting essentially of" transitional language with respect to the method, it is noted that neither Zhu nor Patel et al. require method steps that would fall outside the scope of such "consisting essentially of" transitional language.

Applicants also argue, with respect to claim 12, that specific range of surface tension useful for providing images on a hydrophobic substrate is not obvious in view of general

disclosure that inks suitable for use with ink jet printers have a surface tension of about 20 to 70 dyne/cm as presently claimed.

It is noted that neither Zhu nor Patel et al. explicitly disclose the surface tension of the ink. Ma et al., which is drawn to ink jet ink as is Zhu and Patel et al., disclose that inks suitable for use in ink jet printing systems should have surface tension in the range of 20-70 dyne/cm in order to control jet velocity, separation length of the droplets, drop size, and shear stability of the ink. Thus, the teaching of Ma et al. regards the surface tension required for ink to be suitable for ink jet printing so that the ink is effectively printed from the printer regardless of the type of substrate on which it is printed. Thus, such surface tension would be suitable for ink jet inks printed on any substrate including hydrophobic substrate. While this may not be the same motivation for utilizing ink with specific surface tension as required in the present invention, it is noted that obviousness under 103 is not negated because the motivation to arrive at the claimed invention as disclosed by the prior art does not agree with appellant's motivation. *In re Dillon*, 16 USPQ2d 1897 (Fed. Cir. 1990), *In re Tomlinson*, 150 USPQ 623 (CCPA 1996).

Thus, in light of the motivation for using ink with specific surface tension disclosed by Ma et al., it would have been obvious to one of ordinary skill in the art to control the surface tension of the ink of Zhu or Patel et al. to such surface tension values, including those presently claimed, in order to produce ink that is suitable for, and properly printed from ink jet printer, and thereby arrive at the claimed invention.

Applicants also argue that Patel et al. fails to teach what water-soluble surface agents are needed to adhere to hydrophobic surface and what glass transition temperature levels are selected for the aqueous emulsion polymer.

However, with respect to the water-soluble surface agent, it is noted that Patel et al. disclose that the ink comprises 85-99.5% liquid vehicle comprising water and solvent in ratio of 97:3 to 50:50 wherein the solvent includes sulfolane (col.6, lines 58-60 and 65 and col.7, lines 1-6, 14-16, and 21-25). While Patel et al. disclose the use of other solvents, the fact remains that Patel et al. also explicitly discloses the use of sulfolane as presently claimed and thus, it would have been obvious to one of ordinary skill in the art, absent evidence to the contrary, to utilize sulfolane.

With respect to the glass transition temperature, although there is no explicit disclosure of the glass transition temperature, it is calculated, using the preferred polymer of Patel et al., i.e. obtained from 82% styrene, 18% butyl acrylate, and 2% acrylic acid, and the well known glass transition temperatures of styrene, i.e. 100 °C, butyl acrylate, i.e. -53 °C, and acrylic acid, i.e. 106 °C, that the polymer possesses glass transition temperature of, for instance, approximately 53 °C. Given that the preferred polymer of Patel et al. possesses glass transition temperature that falls within the presently claimed range, it is the examiner's position that Patel et al. meets the requirements of the present claims with respect to glass transition temperature.

### **Conclusion**

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

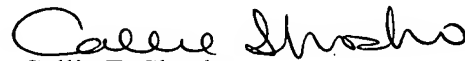
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 1714

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Callie E. Shosho  
Primary Examiner  
Art Unit 1714

CS  
6/10/07